

What is claimed is:

1. A multi-functional power integrating system for reusing cool and hot power; a system comprising compressor, three way servo valves, condensers, check valves, expansion valves, evaporators, fan motors, multi-functional exchangers, heaters, cool and hot power integration system; and the system combining multi-functional exchangers, ice water storage tank and hot water storage tanks so as to used in for example hot water, ice water, warm water, cool gas, vapor, moisture remove, etc; the system can be used at the same time in an single space or several space;

10 in compressing process, a high pressure being connected to a condenser so that liquefied high pressure, high temperature refrigerant generates hot source for use, and then by the expansion of the expansion valve ; and a lower pressure tube serving for transferring lower temperature gas refrigerant to the following compressing system for use
15 in the following cycle;

the high pressure tube being connected to a three way servo valve which is further connected to an heat exchanger and a condenser; the heat exchanger and connecting tube being connected with respective check valves and then the two are combined to be connected to another three
20 way servo valve which is further connected to a cold heat exchanger and an evaporator; the cold heat exchanger and evaporator have check valves; two tubes of the three way servo valve can be installed at an evaporator or a condenser system at an outer side of an inner side of a machine; further the heat exchanger can be connected to a heat for use.

25 2. The multi-functional power integrating system for reusing cool and hot power as claimed in claim 1, wherein from the compressing recycle process, the output load can reuse hot and cold power with the

multi-functional exchanger, indoor air conditioner air blower, water storage tank, and it can be used in any space.

3. The multi-functional power integrating system for reusing cool and hot power as claimed in claim 1, wherein the heating system can be a sensing type and a direct type; in lower temperature and winter, the air conditioner can be stopped completely; the heat can be used independently for saving power; the heat is used with air conditioner; when the temperature of the heat achieves a gasified set temperature, vapor is generated.

4. The multi-functional power integrating system for reusing cool and hot power as claimed in claim 1, wherein in the compressing recycle process, the high pressure tube is connected to a condenser to use with a hot water storage tank for generating hot power; when load set temperature is achieved, the hot power is actuated through a condenser; and it is drained out by a mainframe fan motor; the evaporator provides cold and hot power for use; when the cold heat exchanger is used with the ice water storage tank; cold power is generated; when the load achieves a set temperature; the cold power will actuate by a servo valve and flows through the evaporator and then is released out from the mainframe fan motor; the condenser can provide hot power for use continuously; in the compressing recycle process, when the cold and hot power achieves a set temperature at the same time, the mainframe stops.

5. The multi-functional power integrating system for reusing cool and hot power as claimed in claim 1, wherein the output high pressure hot and cold power and lower pressure power transfers through the three way servo valve to the cold and hot used multi-functional exchanger; and thus the cold and hot power use the same heat exchanger for heat

dissipation and cold reduction.

6. The multi-functional power integrating system for reusing cool and hot power as claimed in claim 1, wherein the compressor is used with conventional or frequency-varied or DC type high efficiency power saving products for use.

7. The multi-functional power integrating system for reusing cool and hot power as claimed in claim 1, wherein the elements of for example compressor, heat exchangers; hot water storage tank, two way valves; three way servo valves; hot and cold releasing can be used at any position inside and outside the machines.

8. The multi-functional power integrating system for reusing cool and hot power as claimed in claim 1, wherein, the hot and cold releasing can be used independently or separately; and gas cooling and water cooling functions can be used.

9. A multi-functional exchanger with condensers and evaporators.

10. The multi-functional exchanger as claimed in claim 9, wherein the cold and hot output, the cold and hot power is input to the multi-functional exchanger so that the exchanger has the function of generating cool gas, warm gas, and removing moisture.

11. The multi-functional exchanger as claimed in claim 9, wherein the cold and hot output, the cold and hot power is input to the multi-functional exchanger so that the exchanger has the function of cooling and heating.